

REMARKS

By the present Amendment, claims 1-4 are cancelled and claims 5-10 are added. This leaves claims 5-10 pending in the application, with claims 5 and 9 being independent.

Substitute Specification

The specification is revised to avoid the objections raised in the Office Action and to eliminate grammatical and idiomatic errors in the originally presented specification. The number and nature of the changes made in the specification would render it difficult to consider the case and to arrange the papers for printing or copying. Thus, the substitute specification will facilitate processing of the application. The substitute specification includes no “new matter”. Pursuant to M.P.E.P. § 608.01(q), voluntarily filed, substitute specifications under these circumstances should normally be accepted. A marked-up copy of the original specification is appended hereto.

Rejections Under 35 U.S.C. § 101 and 35 U.S.C. § 112, Second Paragraph

Original claims 3 and 4 are rewritten as new claims 9 and 10 and are limited to a single statutory class of a machine. Thus, claims 9 and 10 comply with 35 U.S.C. § 101.

Original claims 2-4 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. By the present Amendment, the originally filed claims have been rewritten to avoid the language alleged to be indefinite in the Office Action. All language of the presently pending claims is now believed to be clear and definite.

Thus, the pending claims are definite and comply with 35 U.S.C. § 112.

Rejection Under 35 U.S.C. § 103

Claim 5 covers a method for producing filled and sealed containers comprising extruding a plastic tube through an extrusion head by at least first, second and third extruders to form the

plastic tube with at least three layers. One layer is impermeable to oxygen. Another layer is impermeable to water vapor. The extrusion head has first and second opposite sides. First and second molds are alternately located below the extrusion head and blowing and filling devices located at respective sides of the extrusion head. The plastic tube is extruded into one of the molds when located below the extrusion head, while the plastic tube previously extruded into the other mold is molded into a container with a fill opening by air being blown into the respective tube located in the respective side of the extrusion head. The formed container is filled with contents through the fill opening, and is then welded to seal the fill opening of the container.

Claim 9 covers an apparatus for producing filled and sealed containers. The apparatus comprises an extrusion head 3, first, second and third extruders 2, first and second racks 1 and 4 and first and second blow-fill-seal devices 5. The extrusion head has first and second sides. The extruders are coupled to the extrusion head to coextrude multiple layers into a plastic tube with one layer being impermeable to oxygen and another layer being impermeable to water vapor. The extrusion head and the extruders are mounted on the first rack. The blow-fill-seal devices are mounted on the second rack for movement alternately below the extrusion head to receive the plastic tube and a side position in one of the respective sides of the extrusion head such that one of the devices receives the plastic tube when below the extrusion head while the other of the devices forms, fills and seals the container in the respective side position.

By performing the method and forming the apparatus in this manner, containers formed of multiple layers can be simply and quickly formed, filled and sealed in an efficient manner. The efficiencies are particularly enhanced by using in a single extruder head to alternately fill two separate molding and filling devices which are alternatively located below the extrusion and then moved to the side of the extrusion head for the molding, filling and sealing operations.

Claims 1-4 stand rejected 35 U.S.C. § 103 as being unpatentable over DE 27 03 527 to Hansen in view of U.S. Patent No. 4,244,914 to Ranalli. The Hansen patent is cited for the basic method and device for producing filled and sealed containers in which a tube is extruded, shaped, filled and sealed. The Ranalli patent is cited for containers formed by coextrusion of layers, one of which is impermeable to oxygen. In support of the rejection, it is contended that it would be obvious to use the Ranalli coextrusion method and device in the Hansen method and device.

The Hansen patent discloses a procedure wherein the plastic tube is extruded into a mold in which the plastic tube is formed into a container body, the container is filled with a liquid and is subsequently sealed. However, the system disclosed in the Hansen patent only involves a single blowing and filling device associated with an extrusion head with only a single extruder. Thus, the Hansen patent does not form a container with multiple layers with one being impermeable to oxygen. Moreover, the extruder of the cited Hansen patent is idle while the container is formed, filled and sealed since no second forming, filling and sealing device is provided.


The Ranalli patent appears to disclose coextrusion of layers to form a container, but does not have two blowing and filling devices with one on each side of the extrusion head to allow one device to be located below the extrusion head to receive the plastic tube while the other device is located to the respective extruder head side for the blowing, filling and sealing operations. Thus, the Ranalli patent does not cure the deficiencies noted above relative to the Hansen patent.

Accordingly, claims 5 and 9 are patentably distinguishable over the Hansen and Ranalli patents.

Claims 6-8 being dependent upon claim 5, and claim 10, being dependent upon claim 9, are also patentably distinguishable over the cited patents for the same reasons. These claims are further distinguished by the coextrusion of the layers of claim 6, the three layers of claim 7, the six layers of claim 8 and the control cabinet of claim 10, particularly within the overall claim combination.

In view of the foregoing, claims 5-10 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



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